

**In the claims:**

**Please delete existing claims.**

Please add the following set of claims:

1. A method for training a subject for control processes in a task, comprising:

decomposing the task into a plurality of cognitive skills related to the control processes ;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require complete physical fidelity to the task.

2. The method of claim 1, wherein said trainer uses at least one physical action being different from an actual physical action performed by the subject when performing the task.

3. The method of claim 1, wherein said decomposing the task into said plurality of cognitive skills further comprises:

decomposing the task into a plurality of actions; and  
mapping said plurality of actions to said plurality of cognitive skills.

4. The method of claim 3, wherein said mapping further comprises:

analyzing said plurality of actions to determine a plurality of cognitive actions, wherein said cognitive actions are mapped to said plurality of cognitive skills.

5. The method of claim 1, wherein said determining said training strategy comprises:

associating each cognitive skill with at least one action to be performed by the subject.

6. The method of claim 5, wherein said action in said training strategy further comprises a physical action and a cognitive action, wherein said physical action does not require complete physical fidelity to the task.

7. The method of claim 6, wherein said determining said training strategy further comprises:

coordinating a plurality of actions associated with said cognitive skills.

8. The method of claim 7, wherein said determining said training strategy further comprises:

iteratively adjusting said plurality of actions for said training strategy for said coordinating.

9. The method of claim 8, wherein said iteratively adjusting said plurality of actions is performed according to at least one heuristic parameter.

10. The method of claim 5, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training each cognitive skill.

11. The method of claim 5, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training a plurality of cognitive skills in combination.

12. The method of claim 1, wherein said determining said training strategy comprises determining at least one action to be performed by the subject and wherein said constructing said trainer comprises:

selecting at least one input device and at least one output device for operation by the subject according to said at least one action to be performed by the subject.

13. The method of claim 1, wherein said decomposing the task further comprises:

determining a plurality of basic skills related to the task; and

combining these basic skills into a profile for training the subject.

14. A method for training a subject for control processes in a task, comprising:

designing a cognitive simulator for training the subject in the task;

constructing a trainer for training the subject according to said cognitive simulator; and

determining a training plan for training the subject with said trainer.

15. The method of claim 14, wherein said designing said cognitive simulator comprises:

modeling the task to form a model; and

designing said cognitive simulator according to said model.

16. A system for training a subject for control processes in a task, comprising:

(a) a hardware device for interacting with the subject;

(b) a plurality of instructions for controlling operation of said hardware device;

(c) an analyzer for analyzing interactions of the subject with said hardware device and for adjusting said operation of said hardware device according to said plurality

of instructions, according to said interactions of the subject, thereby training the subject in the task.

17. A system for training a subject in at least one control process associated with a task, comprising:

(a) at least one input device and at least one output device for interacting with the subject, wherein operation of said at least one input device and said at least one output device does not require complete physical fidelity to the task;

(b) a training module for controlling said at least one input device and said at least one output device for training said at least one cognitive skill; and

(c) an analyzer for analyzing interactions of the subject with said at least one input device and said at least one output device and for adjusting said operation of said at least one input device and said at least one output device according to said interactions of the subject, thereby training the subject in the at least one cognitive skill.

18. A method for training a subject in a plurality of cognitive skills for a task, comprising:

mapping a plurality of actions associated with the task into the plurality of cognitive skills;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require physical fidelity to the task.

19. The method of claim 18, wherein the task comprises a sport-related object-handling activity.

20. The method of claim 19, wherein said object-handling activity comprises a ball-handling activity.

21. A trainer for training a subject in a plurality of cognitive skills related to control processes for a task, comprising:

at least one input device and at least one output device for interacting with the subject; and

a control module for controlling interactions of said at least one input device and said at least one output device with the subject, wherein said control module is designed to simulate cognitive actions related to the plurality of cognitive skills for training the subject.

22. A method for training a subject in a control process for a task, comprising:

mapping a plurality of cognitive skills into the control process;

mapping a plurality of actions associated with the task into the plurality of cognitive skills;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require physical fidelity to the task.

Respectfully Submitted,

  
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